

Measurement & Flow Control Division  
Rockwell International Corporation  
805 North Brady Street  
P.O. Box 528  
DuBois, Pennsylvania 15801

(814) 371-8000



The Former  
MEASUREMENT & FLOW  
CONTROL DIVISION  
of Rockwell International  
is now part of  
BTR DUNLOP, INC.

Rockwell  
International

CONTAINS NO CBI

90-890000392

June 29, 1989

Document Processing Center  
Office of Toxic Substances, TS-790  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, DC 20460

Attention: CAIR Reporting Office

Enclosed is the completed Comprehensive Assessment Information  
Rule reporting form (EPA Form 7710-52) for Rockwell International  
-Plant #2, Dock Street, DuBois, PA, for 1988.

The materials being reported are 2,4 toluene diisocyanate and 2,6  
toluene diisocyanate.

Mark L. Sebring  
Assoc. Environmental/Safety Engineer

MLS:em

cc: W. H. Young  
J. F. Hrin

09 JUL -89 AM 10:57  
OFFICE OF TOXIC SUBSTANCES  
U.S. ENVIRONMENTAL PROTECTION AGENCY

CONTAINS NO...



Form Approved  
OMB No. 2010-0019  
Approval Expires 12-31-89



0006225031

90-890000-392

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Comprehensive Assessment Information Rule  
REPORTING FORM

89 JUL -3 AM 10:58  
OIS CONTROL OFFICE

When completed, send this form to:

Document Processing Center  
Office of Toxic Substances, TS-790  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, DC 20460  
Attention: CAIR Reporting Office

For Agency Use Only:

Date of Receipt: \_\_\_\_\_

Document  
Control Number: \_\_\_\_\_

Docket Number: \_\_\_\_\_



1.03 Does the substance you are reporting on have an "x/p" designation associated with it in the above-listed Federal Register Notice?

CBI  
 Yes .....  Go to question 1.04  
 No .....  Go to question 1.05

1.04 a. Do you manufacture, import, or process the listed substance and distribute it under a trade name(s) different than that listed in the Federal Register Notice? Circle the appropriate response.

CBI  
 Yes ..... 1  
 No ..... ②

b. Check the appropriate box below:

You have chosen to notify your customers of their reporting obligations  
Provide the trade name(s) .... \_\_\_\_\_

You have chosen to report for your customers

You have submitted the trade name(s) to EPA one day after the effective date of the rule in the Federal Register Notice under which you are reporting.

1.05 If you buy a trade name product and are reporting because you were notified of your reporting requirements by your trade name supplier, provide that trade name.

CBI  
 Trade name ..... Adiprene L-100 & L-167 ; Vibrathane B-604 & B-614  
 Is the trade name product a mixture? Circle the appropriate response.  
Yes ..... ①  
No ..... 2

1.06 Certification -- The person who is responsible for the completion of this form must sign the certification statement below:

CBI  
 "I hereby certify that, to the best of my knowledge and belief, all information entered on this form is complete and accurate."

William H. Young  
NAME

*William H. Young*  
SIGNATURE

6/30/89  
DATE SIGNED

Operations Manager  
TITLE

(814) 371 - 8000  
TELEPHONE NO.

Mark (X) this box if you attach a continuation sheet.

1.07 Exemptions From Reporting -- If you have provided EPA or another Federal agency with the required information on a CAIR Reporting Form for the listed substance within the past 3 years, and this information is current, accurate, and complete for the time period specified in the rule, then sign the certification below. You are required to complete section 1 of this CAIR form and provide any information now required but not previously submitted. Provide a copy of any previous submissions along with your Section 1 submission.

"I hereby certify that, to the best of my knowledge and belief, all required information which I have not included in this CAIR Reporting Form has been submitted to EPA within the past 3 years and is current, accurate, and complete for the time period specified in the rule."

NA  
\_\_\_\_\_  
NAME  
\_\_\_\_\_  
TITLE  
( )  
\_\_\_\_\_  
SIGNATURE  
\_\_\_\_\_  
TELEPHONE NO.  
\_\_\_\_\_  
DATE SIGNED  
\_\_\_\_\_  
DATE OF PREVIOUS  
SUBMISSION

1.08 CBI Certification -- If you have asserted any CBI claims in this report you must certify that the following statements truthfully and accurately apply to all of those confidentiality claims which you have asserted.

CBI  
[ ] "My company has taken measures to protect the confidentiality of the information, and it will continue to take these measures; the information is not, and has not been, reasonably ascertainable by other persons (other than government bodies) by using legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding) without my company's consent; the information is not publicly available elsewhere; and disclosure of the information would cause substantial harm to my company's competitive position."

NA  
\_\_\_\_\_  
NAME  
\_\_\_\_\_  
TITLE  
( )  
\_\_\_\_\_  
SIGNATURE  
\_\_\_\_\_  
TELEPHONE NO.  
\_\_\_\_\_  
DATE SIGNED

[ ] Mark (X) this box if you attach a continuation sheet.







1.16 For each classification listed below, state the quantity of the listed substance that was manufactured, imported, or processed at your facility during the reporting year.

<u>CBI</u>	<u>Classification</u>	<u>Quantity (kg/yr)</u>
<input type="checkbox"/>	Manufactured .....	<u>0</u>
	Imported .....	<u>0</u>
	Processed (include quantity repackaged) .....	<u>0.572</u>
	Of that quantity manufactured or imported, report that quantity:	
	In storage at the beginning of the reporting year .....	<u>0</u>
	For on-site use or processing .....	<u>0</u>
	For direct commercial distribution (including export) .....	<u>0</u>
	In storage at the end of the reporting year .....	<u>0</u>
	Of that quantity processed, report that quantity:	
	In storage at the beginning of the reporting year .....	<u>UK</u>
	Processed as a reactant (chemical producer) .....	<u>0</u>
	Processed as a formulation component (mixture producer) .....	<u>0</u>
	Processed as an article component (article producer) .....	<u>0.572</u>
	Repackaged (including export) .....	<u>0</u>
	In storage at the end of the reporting year .....	<u>UK</u>

Mark (X) this box if you attach a continuation sheet.



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SECTION 2 MANUFACTURER, IMPORTER, AND PROCESSOR VOLUME AND USE

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2.01 State the total number of years, including the reporting year, that your facility has  
CBI manufactured, imported, or processed the listed substance.

Number of years manufactured ..... \_\_\_\_\_ yrs.  
Number of years imported ..... \_\_\_\_\_ yrs.  
Number of years processed ..... \_\_\_\_\_ yrs.

---

2.02 State the quantity of the listed substance that your facility manufactured, imported,  
CBI or processed during the corporate fiscal year preceding the reporting year.

Year ending ..... [ ] [ ] [ ] [ ]  
Mo. Year

Quantity manufactured ..... \_\_\_\_\_ kg  
Quantity imported ..... \_\_\_\_\_ kg  
Quantity processed ..... \_\_\_\_\_ kg

---

2.03 State the quantity of the listed substance that your facility manufactured, imported,  
CBI or processed during the 2 corporate fiscal years preceding the reporting year in  
descending order.

Year ending ..... [ ] [ ] [ ] [ ]  
Mo. Year

Quantity manufactured ..... \_\_\_\_\_ kg  
Quantity imported ..... \_\_\_\_\_ kg  
Quantity processed ..... \_\_\_\_\_ kg  
Year ending ..... [ ] [ ] [ ] [ ]  
Mo. Year

Quantity manufactured ..... \_\_\_\_\_ kg  
Quantity imported ..... \_\_\_\_\_ kg  
Quantity processed ..... \_\_\_\_\_ kg

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Mark (X) this box if you attach a continuation sheet.

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2.04 State the quantity of the listed substance that your facility manufactured, imported, or processed during the 3 corporate fiscal years preceding the reporting year in descending order.

CBI

Year ending ..... [1] [2] [8] [7]  
Mo. Year

Quantity manufactured ..... 0 kg

Quantity imported ..... 0 kg

Quantity processed ..... UK kg

Year ending ..... [1] [2] [8] [6]  
Mo. Year

Quantity manufactured ..... 0 kg

Quantity imported ..... 0 kg

Quantity processed ..... UK kg

Year ending ..... [1] [2] [8] [5]  
Mo. Year

Quantity manufactured ..... 0 kg

Quantity imported ..... 0 kg

Quantity processed ..... UK kg

2.05 Specify the manner in which you manufactured the listed substance. Circle all appropriate process types.

CBI

Continuous process ..... 1

Semicontinuous process ..... 2

Batch process ..... ③

Mark (X) this box if you attach a continuation sheet.

2.06 Specify the manner in which you processed the listed substance. Circle all appropriate process types.

- Continuous process ..... 1  
 Semicontinuous process ..... 2  
 Batch process ..... ③

2.07 State your facility's name-plate capacity for manufacturing or processing the listed substance. (If you are a batch manufacturer or batch processor, do not answer this question.)

- Manufacturing capacity ..... \_\_\_\_\_ kg/yr  
 Processing capacity ..... \_\_\_\_\_ kg/yr

2.08 If you intend to increase or decrease the quantity of the listed substance manufactured, imported, or processed at any time after your current corporate fiscal year, estimate the increase or decrease based upon the reporting year's production volume.

<input type="checkbox"/>	Manufacturing Quantity (kg)	Importing Quantity (kg)	Processing Quantity (kg)
Amount of increase	_____	_____	_____
Amount of decrease	_____	_____	_____

Mark (X) this box if you attach a continuation sheet.



2.11 Related Product Types -- List any byproducts, coproducts, or impurities present with the listed substance in concentrations greater than 0.1 percent as it is manufactured, imported, or processed. The source of byproducts, coproducts, or impurities means the source from which the byproducts, coproducts, or impurities are made or introduced into the product (e.g., carryover from raw material, reaction product, etc.).

CBI

<u>CAS No.</u>	<u>Chemical Name</u>	<u>Byproduct, Coproduct or Impurity<sup>1</sup></u>	<u>Concentration (%) (specify ± % precision)</u>	<u>Source of By-products, Coproducts, or Impurities</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

<sup>1</sup>Use the following codes to designate byproduct, coproduct, or impurity:

- B = Byproduct
- C = Coproduct
- I = Impurity

Mark (X) this box if you attach a continuation sheet.

2.12 Existing Product Types -- List all existing product types which you manufactured, imported, or processed using the listed substance during the reporting year. List the quantity of listed substance you use for each product type as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to  the instructions for further explanation and an example.)

CBI

a. Product Types <sup>1</sup>	b. % of Quantity Manufactured, Imported, or Processed	c. % of Quantity Used Captively On-Site	d. Type of End-Users <sup>2</sup>
B	100	100	I

<sup>1</sup>Use the following codes to designate product types:

- |  |   |
|--|---|
| A = Solvent  | L = Moldable/Castable/Rubber and additives              |
| B = Synthetic reactant                             | M = Plasticizer   |
| C = Catalyst/Initiator/Accelerator/<br>Sensitizer  | N = Dye/Pigment/Colorant/Ink and additives              |
| D = Inhibitor/Stabilizer/Scavenger/<br>Antioxidant | O = Photographic/Reprographic chemical<br>and additives |
| E = Analytical reagent                             | P = Electrodeposition/Plating chemicals                 |
| F = Chelator/Coagulant/Sequestrant                 | Q = Fuel and fuel additives                             |
| G = Cleanser/Detergent/Degreaser                   | R = Explosive chemicals and additives                   |
| H = Lubricant/Friction modifier/Antiwear<br>agent  | S = Fragrance/Flavor chemicals                          |
| I = Surfactant/Emulsifier                          | T = Pollution control chemicals                         |
| J = Flame retardant                                | U = Functional fluids and additives                     |
| K = Coating/Binder/Adhesive and additives          | V = Metal alloy and additives                           |
|  | W = Rheological modifier                                |
|  | X = Other (specify) _____                               |

<sup>2</sup>Use the following codes to designate the type of end-users:

- |                 |                           |
|-----------------|---------------------------|
| I = Industrial  | CS = Consumer             |
| CM = Commercial | H = Other (specify) _____ |

Mark (X) this box if you attach a continuation sheet.

2.13 Expected Product Types -- Identify all product types which you expect to manufacture, import, or process using the listed substance at any time after your current corporate fiscal year. For each use, specify the quantity you expect to manufacture, import, or process for each use as a percentage of the total volume of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

CBI

a. Product Types <sup>1</sup>	b. % of Quantity Manufactured, Imported, or Processed	c. % of Quantity Used Captively On-Site	d. Type of End-Users <sup>2</sup>
B	100	100	I

<sup>1</sup>Use the following codes to designate product types:

- |  |   |
|--|---|
| A = Solvent  | L = Moldable/Castable/Rubber and additives              |
| B = Synthetic reactant                             | M = Plasticizer   |
| C = Catalyst/Initiator/Accelerator/<br>Sensitizer  | N = Dye/Pigment/Colorant/Ink and additives              |
| D = Inhibitor/Stabilizer/Scavenger/<br>Antioxidant | O = Photographic/Reprographic chemical<br>and additives |
| E = Analytical reagent                             | P = Electrodeposition/Plating chemicals                 |
| F = Chelator/Coagulant/Sequestrant                 | Q = Fuel and fuel additives                             |
| G = Cleanser/Detergent/Degreaser                   | R = Explosive chemicals and additives                   |
| H = Lubricant/Friction modifier/Antiwear<br>agent  | S = Fragrance/Flavor chemicals                          |
| I = Surfactant/Emulsifier                          | T = Pollution control chemicals                         |
| J = Flame retardant                                | U = Functional fluids and additives                     |
| K = Coating/Binder/Adhesive and additives          | V = Metal alloy and additives                           |
|  | W = Rheological modifier                                |
|  | X = Other (specify) _____                               |

<sup>2</sup>Use the following codes to designate the type of end-users:

- |                 |                           |
|-----------------|---------------------------|
| I = Industrial  | CS = Consumer             |
| CM = Commercial | H = Other (specify) _____ |

Mark (X) this box if you attach a continuation sheet.

2.14 Final Product -- Complete the following table for each type of final product manufactured, imported, or processed at your facility that contains the listed substance other than as an impurity.

a.	b.	c.	d.
Product Type <sup>1</sup>	Final Product's Physical Form <sup>2</sup>	Average % Composition of Listed Substance in Final Product	Type of End-Users <sup>3</sup>
NA			

<sup>1</sup>Use the following codes to designate product types:

- |  |  |
|--|--|
| A = Solvent                                    | L = Moldable/Castable/Rubber and additives           |
| B = Synthetic reactant                         | M = Plasticizer                                      |
| C = Catalyst/Initiator/Accelerator/Sensitizer  | N = Dye/Pigment/Colorant/Ink and additives           |
| D = Inhibitor/Stabilizer/Scavenger/Antioxidant | O = Photographic/Reprographic chemical and additives |
| E = Analytical reagent                         | P = Electrodeposition/Plating chemicals              |
| F = Chelator/Coagulant/Sequestrant             | Q = Fuel and fuel additives                          |
| G = Cleanser/Detergent/Degreaser               | R = Explosive chemicals and additives                |
| H = Lubricant/Friction modifier/Antiwear agent | S = Fragrance/Flavor chemicals                       |
| I = Surfactant/Emulsifier                      | T = Pollution control chemicals                      |
| J = Flame retardant                            | U = Functional fluids and additives                  |
| K = Coating/Binder/Adhesive and additives      | V = Metal alloy and additives                        |
|  | W = Rheological modifier                             |
|  | X = Other (specify) _____                            |

<sup>2</sup>Use the following codes to designate the final product's physical form:

- |                      |                           |
|----------------------|---------------------------|
| A = Gas              | F2 = Crystalline solid    |
| B = Liquid           | F3 = Granules             |
| C = Aqueous solution | F4 = Other solid          |
| D = Paste            | G = Gel                   |
| E = Slurry           | H = Other (specify) _____ |
| F1 = Powder          |                           |

<sup>3</sup>Use the following codes to designate the type of end-users:

- |                 |                           |
|-----------------|---------------------------|
| I = Industrial  | CS = Consumer             |
| CM = Commercial | H = Other (specify) _____ |

Mark (X) this box if you attach a continuation sheet.

2.15 Circle all applicable modes of transportation used to deliver bulk shipments of the CBI listed substance to off-site customers.

- Truck ..... 1
- Railcar ..... 2
- Barge, Vessel ..... 3
- Pipeline ..... 4
- Plane ..... 5
- Other (specify) NA ..... 6

2.16 Customer Use -- Estimate the quantity of the listed substance used by your customers or prepared by your customers during the reporting year for use under each category of end use listed (i-iv).

- Category of End Use
- i. Industrial Products
    - Chemical or mixture ..... NA kg/yr
    - Article ..... NA kg/yr
  - ii. Commercial Products
    - Chemical or mixture ..... NA kg/yr
    - Article ..... NA kg/yr
  - iii. Consumer Products
    - Chemical or mixture ..... NA kg/yr
    - Article ..... NA kg/yr
  - iv. Other
    - Distribution (excluding export) ..... NA kg/yr
    - Export ..... NA kg/yr
    - Quantity of substance consumed as reactant ..... NA kg/yr
    - Unknown customer uses ..... NA kg/yr

Mark (X) this box if you attach a continuation sheet.

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2.17 State the quantity of the listed substance that you exported during the reporting  
CBI year.

In bulk ..... NA kg/yr  
As a mixture ..... NA kg/yr  
In articles ..... NA kg/yr

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Mark (X) this box if you attach a continuation sheet.

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SECTION 3 PROCESSOR RAW MATERIAL IDENTIFICATION

PART A GENERAL DATA

3.01 Specify the quantity purchased and the average price paid for the listed substance for each major source of supply listed. Product trades are treated as purchases.  
CBI The average price is the market value of the product that was traded for the listed substance.

<u>Source of Supply</u>	Quantity (kg)	Average Price (\$/kg)
The listed substance was manufactured on-site.	0	0
The listed substance was transferred from a different company site.	0	0
The listed substance was purchased directly from a manufacturer or importer.	0.527	7.34
The listed substance was purchased from a distributor or repackager.	0	0
The listed substance was purchased from a mixture producer.	0	0

3.02 Circle all applicable modes of transportation used to deliver the listed substance to your facility.

- 
- Truck ..... ①
  - Railcar ..... 2
  - Barge, Vessel ..... 3
  - Pipeline ..... 4
  - Plane ..... 5
  - Other (specify) \_\_\_\_\_ ..... 6

Mark (X) this box if you attach a continuation sheet.

3.03 a. Circle all applicable containers used to transport the listed substance to your  
CBI facility.

- Bags ..... 1
- Boxes ..... 2
- Free standing tank cylinders ..... 3
- Tank rail cars ..... 4
- Hopper cars ..... 5
- Tank trucks ..... 6
- Hopper trucks ..... 7
- Drums ..... 8
- Pipeline ..... 9
- Other (specify) 5 gallon pail ..... (10)

b. If the listed substance is transported in pressurized tank cylinders, tank rail cars, or tank trucks, state the pressure of the tanks.

- Tank cylinders ..... \_\_\_\_\_ mmHg
- Tank rail cars ..... \_\_\_\_\_ mmHg
- Tank trucks ..... \_\_\_\_\_ mmHg

Mark (X) this box if you attach a continuation sheet.

PART B RAW MATERIAL IN THE FORM OF A MIXTURE

3.04 If you obtain the listed substance in the form of a mixture, list the trade name(s) of the mixture, the name of its supplier(s) or manufacturer(s), an estimate of the average percent composition by weight of the listed substance in the mixture, and the amount of mixture processed during the reporting year.

CBI

<u>Trade Name</u>	<u>Supplier or Manufacturer</u>	<u>Average % Composition by Weight (specify ± % precision)</u>	<u>Amount Processed (kg/yr)</u>
NA			

Mark (X) this box if you attach a continuation sheet.

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PART C RAW MATERIAL VOLUME

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3.05 State the quantity of the listed substance used as a raw material during the reporting year in the form of a class I chemical, class II chemical, or polymer, and the percent composition, by weight, of the listed substance.

	Quantity Used (kg/yr)	% Composition by Weight of Listed Sub- stance in Raw Material (specify + % precision)
Class I chemical	<u>0.572</u>	<u>0.56</u>
	<hr/>	<hr/>
	<hr/>	<hr/>
Class II chemical	<hr/>	<hr/>
	<hr/>	<hr/>
	<hr/>	<hr/>
Polymer	<hr/>	<hr/>
	<hr/>	<hr/>
	<hr/>	<hr/>

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Mark (X) this box if you attach a continuation sheet.

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SECTION 4 PHYSICAL/CHEMICAL PROPERTIES

General Instructions:

If you are reporting on a mixture as defined in the glossary, reply to questions in Section 4 that are inappropriate to mixtures by stating "NA -- mixture."

For questions 4.06-4.15, if you possess any hazard warning statement, label, MSDS, or other notice that addresses the information requested, you may submit a copy or reasonable facsimile in lieu of answering those questions which it addresses.

PART A PHYSICAL/CHEMICAL DATA SUMMARY

4.01 Specify the percent purity for the three major<sup>1</sup> technical grade(s) of the listed substance as it is manufactured, imported, or processed. Measure the purity of the CBI substance in the final product form for manufacturing activities, at the time you import the substance, or at the point you begin to process the substance.

	<u>Manufacture</u>	<u>Import</u>	<u>Process</u>
Technical grade #1	<u>NA</u> % purity	_____ % purity	_____ % purity
Technical grade #2	<u>NA</u> % purity	_____ % purity	_____ % purity
Technical grade #3	<u>NA</u> % purity	_____ % purity	_____ % purity

<sup>1</sup>Major = Greatest quantity of listed substance manufactured, imported or processed.

4.02 Submit your most recently updated Material Safety Data Sheet (MSDS) for the listed substance, and for every formulation containing the listed substance. If you possess an MSDS that you developed and an MSDS developed by a different source, submit your version. Indicate whether at least one MSDS has been submitted by circling the appropriate response.

Yes ..... ①

No ..... 2

Indicate whether the MSDS was developed by your company or by a different source.

Your company ..... 1

Another source ..... ②

Mark (X) this box if you attach a continuation sheet.

4.03 Submit a copy or reasonable facsimile of any hazard information (other than an MSDS) that is provided to your customers/users regarding the listed substance or any formulation containing the listed substance. Indicate whether this information has been submitted by circling the appropriate response.

Yes ..... 1  
 No ..... ②

4.04 For each activity that uses the listed substance, circle all the applicable number(s) corresponding to each physical state of the listed substance during the activity listed. Physical states for importing and processing activities are determined at the time you import or begin to process the listed substance. Physical states for manufacturing, storage, disposal and transport activities are determined using the final state of the product.

CBI

Activity	Physical State				
	Solid	Slurry	Liquid	Liquified Gas	Gas
Manufacture	1	2	3	4	5
Import	1	2	3	4	5
Process	1	2	③	4	5
Store	1	2	3	4	5
Dispose	1	2	3	4	5
Transport	1	2	3	4	5

Mark (X) this box if you attach a continuation sheet.

4.05 Particle Size -- If the listed substance exists in particulate form during any of the following activities, indicate for each applicable physical state the size and the percentage distribution of the listed substance by activity. Do not include particles  $\geq 10$  microns in diameter. Measure the physical state and particle sizes for importing and processing activities at the time you import or begin to process the listed substance. Measure the physical state and particle sizes for manufacturing storage, disposal and transport activities using the final state of the product.

CBI

<u>Physical State</u>	<u>NA</u>	<u>Manufacture</u>	<u>Import</u>	<u>Process</u>	<u>Store</u>	<u>Dispose</u>	<u>Transport</u>
Dust	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____
Powder	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____
Fiber	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____
Aerosol	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____

Mark (X) this box if you attach a continuation sheet.

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SECTION 5 ENVIRONMENTAL FATE

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PART A RATE CONSTANTS AND TRANSFORMATION PRODUCTS

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5.01 Indicate the rate constants for the following transformation processes.

a. Photolysis:

Absorption spectrum coefficient (peak) .... UK (1/M cm) at \_\_\_\_\_ nm  
Reaction quantum yield,  $\phi$  ..... UK at \_\_\_\_\_ nm  
Direct photolysis rate constant,  $k_p$ , at ... UK 1/hr \_\_\_\_\_ latitude

b. Oxidation constants at 25°C:

For  $^1O_2$  (singlet oxygen),  $k_{ox}$  ..... UK 1/M hr  
For  $RO_2$  (peroxy radical),  $k_{ox}$  ..... UK 1/M hr

c. Five-day biochemical oxygen demand,  $BOD_5$  ... UK mg/l

d. Biotransformation rate constant:

For bacterial transformation in water,  $k_b$ ... UK 1/hr  
Specify culture ..... UK

e. Hydrolysis rate constants:

For base-promoted process,  $k_B$  ..... UK 1/M hr  
For acid-promoted process,  $k_A$  ..... UK 1/M hr  
For neutral process,  $k_N$  ..... UK 1/hr

f. Chemical reduction rate (specify conditions) UK

g. Other (such as spontaneous degradation) ... UK

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Mark (X) this box if you attach a continuation sheet.

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**PART B PARTITION COEFFICIENTS**

5.02 a. Specify the half-life of the listed substance in the following media.

<u>Media</u>	<u>Half-life (specify units)</u>
Groundwater	<u>UK</u>
Atmosphere	<u>UK</u>
Surface water	<u>UK</u>
Soil	<u>UK</u>

b. Identify the listed substance's known transformation products that have a half-life greater than 24 hours.

<u>CAS No.</u>	<u>Name</u>	<u>Half-life (specify units)</u>	<u>Media</u>
<u>UK</u>			in _____
			in _____
			in _____
			in _____

5.03 Specify the octanol-water partition coefficient,  $K_{ow}$  ... UK at 25°C  
 Method of calculation or determination .....

5.04 Specify the soil-water partition coefficient,  $K_d$  ..... UK at 25°C  
 Soil type .....

5.05 Specify the organic carbon-water partition coefficient,  $K_{oc}$  ..... UK at 25°C

5.06 Specify the Henry's Law Constant, H ..... UK atm-m<sup>3</sup>/mole

Mark (X) this box if you attach a continuation sheet.

5.07 List the bioconcentration factor (BCF) of the listed substance, the species for which it was determined, and the type of test used in deriving the BCF.

<u>Bioconcentration Factor</u>	<u>Species</u>	<u>Test</u> <sup>1</sup>
UK		

<sup>1</sup>Use the following codes to designate the type of test:

- F = Flowthrough
- S = Static

Mark (X) this box if you attach a continuation sheet.

6.04 For each market listed below, state the quantity sold and the total sales value of CBI the listed substance sold or transferred in bulk during the reporting year.

<u>NA</u> Market	<u>Quantity Sold or Transferred (kg/yr)</u>	<u>Total Sales Value (\$/yr)</u>
Retail sales	_____	_____
Distribution -- Wholesalers	_____	_____
Distribution -- Retailers	_____	_____
Intra-company transfer	_____	_____
Repackagers	_____	_____
Mixture producers	_____	_____
Article producers	_____	_____
Other chemical manufacturers or processors	_____	_____
Exporters	_____	_____
Other (specify)	_____	_____
_____	_____	_____

6.05 Substitutes -- List all known commercially feasible substitutes that you know exist for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible to use in your current operation, and which results in a final product with comparable performance in its end uses.

CBI

<u>Substitute</u>	<u>Cost (\$/kg)</u>
<u>NA</u>	_____
_____	_____
_____	_____

Mark (X) this box if you attach a continuation sheet.

---

SECTION 7 MANUFACTURING AND PROCESSING INFORMATION

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General Instructions:

For questions 7.04-7.06, provide a separate response for each process block flow diagram provided in questions 7.01, 7.02, and 7.03. Identify the process type from which the information is extracted.

---

PART A MANUFACTURING AND PROCESSING PROCESS TYPE DESCRIPTION

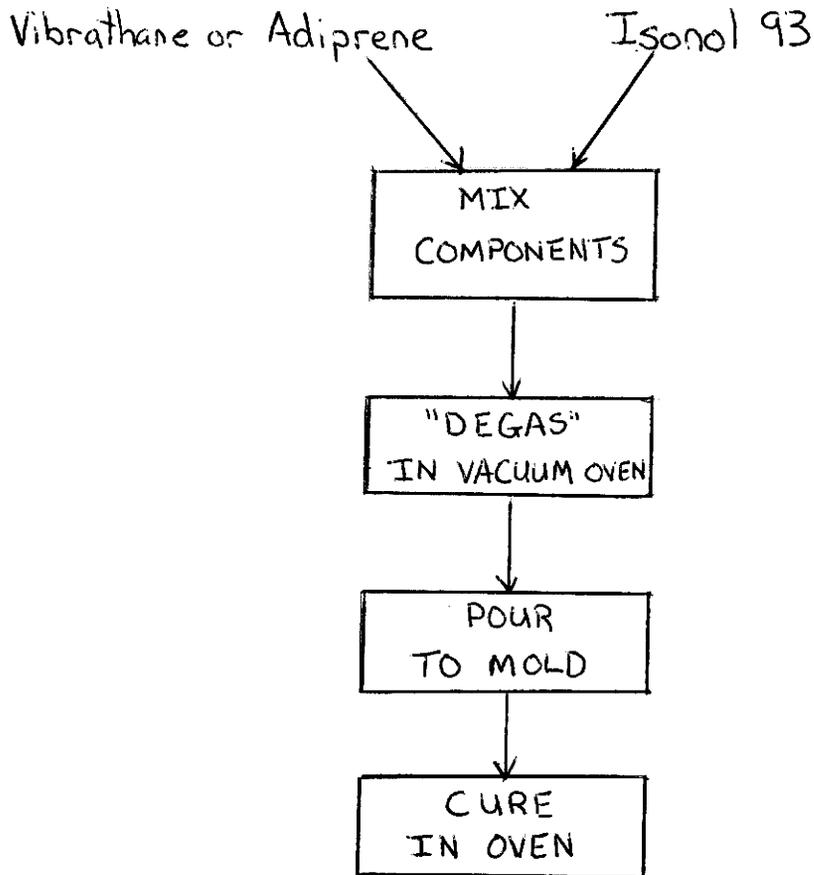
---

7.01 In accordance with the instructions, provide a process block flow diagram showing the major (greatest volume) process type involving the listed substance.

CBI

Process type ..... Open Casting of Polyurethane

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---

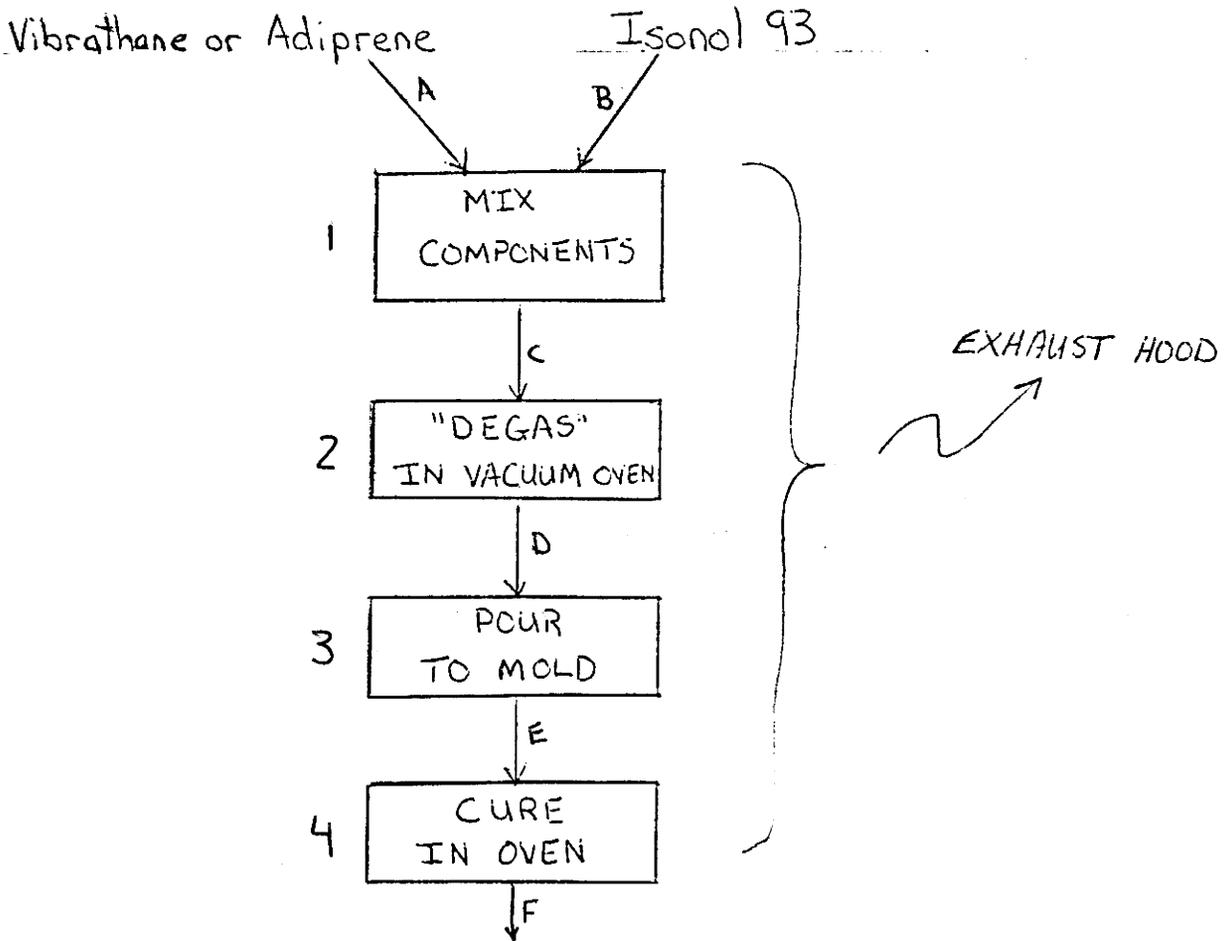
Mark (X) this box if you attach a continuation sheet.

---

7.03 In accordance with the instructions, provide a process block flow diagram showing all process emission streams and emission points that contain the listed substance and which, if combined, would total at least 90 percent of all facility emissions if not treated before emission into the environment. If all such emissions are released from one process type, provide a process block flow diagram using the instructions for question 7.01. If all such emissions are released from more than one process type, provide a process block flow diagram showing each process type as a separate block.

CBI

Process type ..... Open Casting of Polyurethane



Mark (X) this box if you attach a continuation sheet.

7.04 Describe the typical equipment types for each unit operation identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

Process type ..... Open Casting

Unit Operation ID Number	Typical Equipment Type	Operating Temperature Range (°C)	Operating Pressure Range (mm Hg)	Vessel Composition
<u>1</u>	<u>Beaker</u>	<u>Ambient</u>	<u>-</u>	<u>Polyethylene</u>
<u>2</u>	<u>Vacuum Oven</u>		<u>-</u>	<u>Steel</u>
<u>3</u>	<u>NA</u>	<u>NA</u>	<u>-</u>	<u>-</u>
<u>4</u>	<u>Curing Oven</u>		<u>-</u>	<u>Steel</u>

Mark (X) this box if you attach a continuation sheet.

7.05 Describe each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

Process type ..... Open Casting of Polyurethane

Process Stream ID Code	Process Stream Description	Physical State <sup>1</sup>	Stream Flow (kg/yr)
A	TDI Containing Compound	OL	102
B	Polyfunctional Polyol	OL	17.5
C	Mixture of A & B	OL	119.5
D	"Degassed" Mixture	OL	119.5
E	"Degassed" Mixture	OL	119.5
F	Cured Polyurethane Elastomer	SL	UK

<sup>1</sup>Use the following codes to designate the physical state for each process stream:

- GC = Gas (condensable at ambient temperature and pressure)
- GU = Gas (uncondensable at ambient temperature and pressure)
- SO = Solid
- SY = Sludge or slurry
- AL = Aqueous liquid
- OL = Organic liquid
- IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

Mark (X) this box if you attach a continuation sheet.

7.06 Characterize each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the CBI instructions for further explanation and an example.)

Process type ..... Open Casting of Polyurethane

a.	b.	c.	d.	e.
Process Stream ID Code	Known Compounds <sup>1</sup>	Concentrations <sup>2,3</sup> (% or ppm)	Other Expected Compounds	Estimated Concentrations (% or ppm)
<u>A</u>	<u>2,4 toluenediisocyanate</u>	<u>0.56%</u>	<u>UK</u>	<u>UK</u>
	<u>2,6 toluenediisocyanate</u>	<u>1.12%</u>	<u>UK</u>	<u>UK</u>
<u>B</u>	<u>Polyfunctional Polyol</u>	<u>100</u>	<u>NA</u>	<u>NA</u>

7.06 continued below

Mark (X) this box if you attach a continuation sheet.

7.06 (continued)

<sup>1</sup>For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column b. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive Package Number	Components of Additive Package	Concentrations (% or ppm)
1	NA	
2		
3		
4		
5		

<sup>2</sup>Use the following codes to designate how the concentration was determined:

- A = Analytical result
- E = Engineering judgement/calculation

<sup>3</sup>Use the following codes to designate how the concentration was measured:

- V = Volume
- W = Weight

Mark (X) this box if you attach a continuation sheet.

---

PART A RESIDUAL TREATMENT PROCESS DESCRIPTION

---

8.01 In accordance with the instructions, provide a residual treatment block flow diagram which describes the treatment process used for residuals identified in question 7.01.  
CBI

Process type ..... NA

---

---

Mark (X) this box if you attach a continuation sheet.

---





8.22 Describe the combustion chamber design parameters for each of the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

Incinerator	Combustion Chamber Temperature (°C)		Location of Temperature Monitor		Residence Time In Combustion Chamber (seconds)	
	Primary	Secondary	Primary	Secondary	Primary	Secondary
1	NA					
2						
3						

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

- Yes ..... 1  
 No ..... 2

8.23 Complete the following table for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

Incinerator	Air Pollution Control Device <sup>1</sup>	Types of Emissions Data Available
1	NA	
2		
3		

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

- Yes ..... 1  
 No ..... 2

<sup>1</sup>Use the following codes to designate the air pollution control device:

- S = Scrubber (include type of scrubber in parenthesis)
- E = Electrostatic precipitator
- O = Other (specify) \_\_\_\_\_

Mark (X) this box if you attach a continuation sheet.

**PART A EMPLOYMENT AND POTENTIAL EXPOSURE PROFILE**

9.01 Mark (X) the appropriate column to indicate whether your company maintains records on the following data elements for hourly and salaried workers. Specify for each data element the year in which you began maintaining records and the number of years the records for that data element are maintained. (Refer to the instructions for further explanation and an example.)

CBI

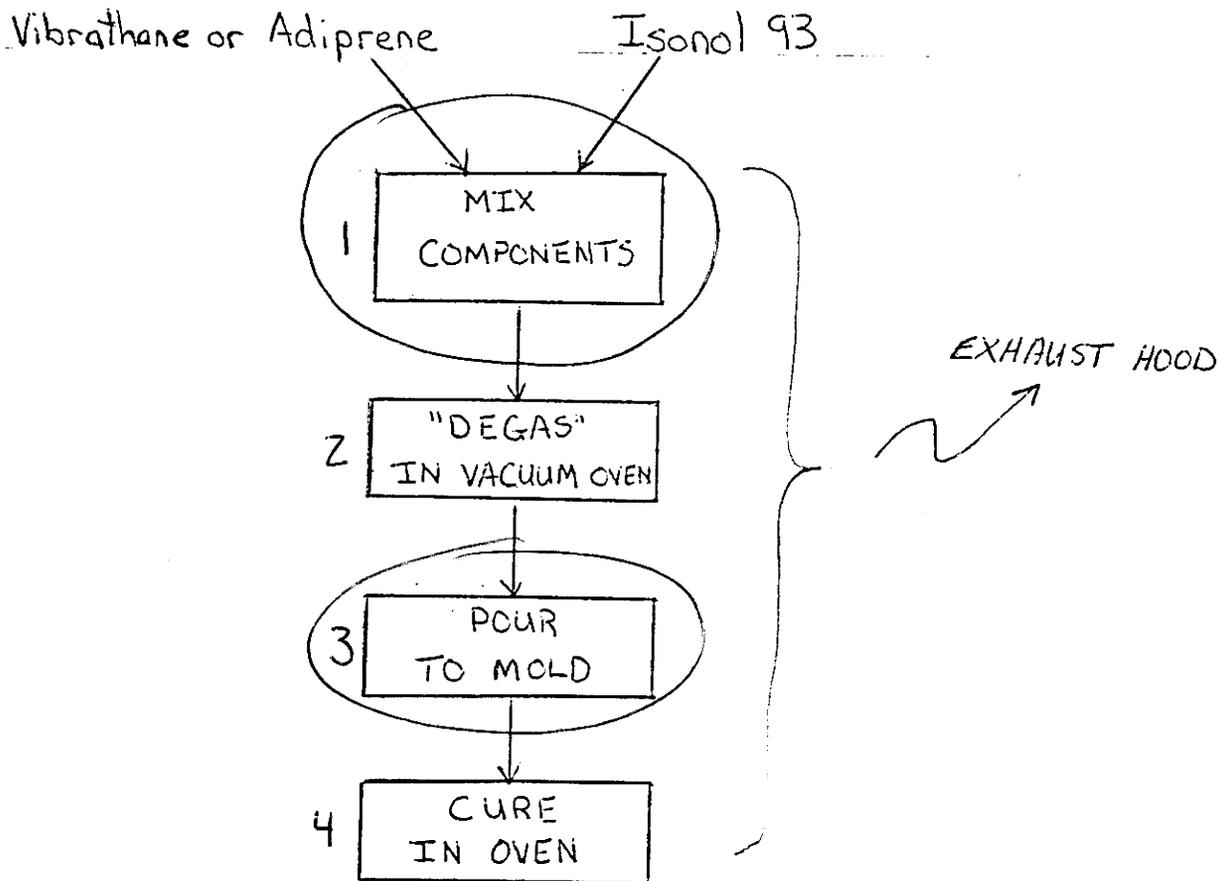
Data Element	Data are Maintained for:		Year in Which Data Collection Began	Number of Years Records Are Maintained
	Hourly Workers	Salaried Workers		
Date of hire	X	X	UK	Indefinitely
Age at hire	X	X	UK	"
Work history of individual before employment at your facility				
Sex	X	X	UK	"
Race	X	X	UK	"
Job titles	X	X	UK	"
Start date for each job title	X	X	UK	"
End date for each job title	X	X	UK	"
Work area industrial hygiene monitoring data	X	X	UK	"
Personal employee monitoring data	X	X	UK	"
Employee medical history				
Employee smoking history				
Accident history	X	X	UK	"
Retirement date	X	X	UK	"
Termination date	X	X	UK	"
Vital status of retirees				
Cause of death data				

Mark (X) this box if you attach a continuation sheet.

9.04 In accordance with the instructions, provide your process block flow diagram(s) and indicate associated work areas.

CBI

Process type ..... Open Casting



Mark (X) this box if you attach a continuation sheet.

9.05 Describe the various work area(s) shown in question 9.04 that encompass workers who may potentially come in contact with or be exposed to the listed substance. Add any additional areas not shown in the process block flow diagram in question 7.01 or 7.02. Photocopy this question and complete it separately for each process type.

CBI

Process type ..... Open Casting of Polyurethane

Work Area ID

Description of Work Areas and Worker Activities

①

Enclosed room with exhaust hoods for mixing.

2

③

Enclosed room with exhaust hoods for pouring.

4

5

6

7

8

9

10

Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question CBI and complete it separately for each process type and work area.

Process type ..... Open Casting of Polyurethane  
 Work area ..... 1, 2, 3, & 4

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance <sup>1</sup>	Average Length of Exposure Per Day <sup>2</sup>	Number of Days per Year Exposed
<u>A</u>	<u>1</u>	<u>Inhalation</u>	<u>OL</u>	<u>E</u>	<u>240</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

<sup>1</sup>Use the following codes to designate the physical state of the listed substance at the point of exposure:

- GC = Gas (condensable at ambient temperature and pressure)
- GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)
- SO = Solid
- SY = Sludge or slurry
- AL = Aqueous liquid
- OL = Organic liquid
- IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

<sup>2</sup>Use the following codes to designate average length of exposure per day:

- A = 15 minutes or less
- B = Greater than 15 minutes, but not exceeding 1 hour
- C = Greater than one hour, but not exceeding 2 hours
- D = Greater than 2 hours, but not exceeding 4 hours
- E = Greater than 4 hours, but not exceeding 8 hours
- F = Greater than 8 hours

Mark (X) this box if you attach a continuation sheet.



**PART B WORK PLACE MONITORING PROGRAM**

9.08 If you monitor worker exposure to the listed substance, complete the following table.

CBI

<u>Sample/Test</u>	<u>Work Area ID</u>	<u>Testing Frequency (per year)</u>	<u>Number of Samples (per test)</u>	<u>Who Samples<sup>1</sup></u>	<u>Analyzed In-House (Y/N)</u>	<u>Number of Years Records Maintained</u>
Personal breathing zone	1,2,3,4	1	1	A	Y	30
General work area (air)	NA					
Wipe samples	NA					
Adhesive patches	NA					
Blood samples	NA					
Urine samples	NA					
Respiratory samples	NA					
Allergy tests	NA					
Other (specify)						
Other (specify)						
Other (specify)						

<sup>1</sup>Use the following codes to designate who takes the monitoring samples:

- A = Plant industrial hygienist
- B = Insurance carrier
- C = OSHA consultant
- D = Other (specify) \_\_\_\_\_

Mark (X) this box if you attach a continuation sheet.

9.09 For each sample type identified in question 9.08, describe the type of sampling and analytical methodology used for each type of sample.

<input type="checkbox"/> Sample Type	Sampling and Analytical Methodology
<u>Personal Breathing Zone</u>	<u>Gas Monitoring Badge - color indicator</u>

9.10 If you conduct personal and/or ambient air monitoring for the listed substance, specify the following information for each equipment type used.

<input type="checkbox"/> Equipment Type <sup>1</sup>	Detection Limit <sup>2</sup>	Manufacturer	Averaging Time (hr)	Model Number
<u>A</u>	<u>0.01 A</u>	<u>GMD Systems Inc</u>	<u>8</u>	<u>550-01</u>

<sup>1</sup>Use the following codes to designate personal air monitoring equipment types:

- A = Passive dosimeter
- B = Detector tube
- C = Charcoal filtration tube with pump
- D = Other (specify) \_\_\_\_\_

Use the following codes to designate ambient air monitoring equipment types:

- E = Stationary monitors located within work area
- F = Stationary monitors located within facility
- G = Stationary monitors located at plant boundary
- H = Mobile monitoring equipment (specify) \_\_\_\_\_
- I = Other (specify) \_\_\_\_\_

<sup>2</sup>Use the following codes to designate detection limit units:

- A = ppm
- B = Fibers/cubic centimeter (f/cc)
- C = Micrograms/cubic meter ( $\mu/m^3$ )

Mark (X) this box if you attach a continuation sheet.

9.11 If you conduct routine medical tests for monitoring the health effects of exposure to the listed substance, specify the type and frequency of the tests.

CBI

Test Description

Frequency  
(weekly, monthly, yearly, etc.)

NA


Mark (X) this box if you attach a continuation sheet.

PART C ENGINEERING CONTROLS

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

Process type ..... Open Casting  
 Work area .....

<u>Engineering Controls</u>	<u>Used (Y/N)</u>	<u>Year Installed</u>	<u>Upgraded (Y/N)</u>	<u>Year Upgraded</u>
<b>Ventilation:</b>				
Local exhaust	<u>Y</u>	<u>UN</u>	<u>N</u>	
General dilution	<u>Y</u>	<u>UN</u>	<u>N</u>	
Other (specify)				
_____				
Vessel emission controls	<u>N</u>		<u>N</u>	
Mechanical loading or packaging equipment	<u>N</u>		<u>N</u>	
Other (specify)				
_____				

Mark (X) this box if you attach a continuation sheet.

9.13 Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.

CBI

Process type ..... NA

Work area .....

<u>Equipment or Process Modification</u>	<u>Reduction in Worker Exposure Per Year (%)</u>

Mark (X) this box if you attach a continuation sheet.

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

Process type ..... Open Casting of Polyurethane

Work area ..... 1, 2, 3, & 4

<u>Equipment Types</u>	<u>Wear or Use (Y/N)</u>
Respirators	<u>Y</u>
Safety goggles/glasses	<u>Y</u>
Face shields	<u>N</u>
Coveralls	<u>N</u>
Bib aprons	<u>N</u>
Chemical-resistant gloves	<u>Y</u>
Other (specify)	
_____	_____
_____	_____

Mark (X) this box if you attach a continuation sheet.

9.15 If workers use respirators when working with the listed substance, specify for each process type, the work areas where the respirators are used, the type of respirators used, the average usage, whether or not the respirators were fit tested, and the type and frequency of the fit tests. Photocopy this question and complete it separately for each process type.

CBI

Process type ..... Open Casting of Polyurethane

Work Area	Respirator Type	Average Usage <sup>1</sup>	Fit Tested (Y/N)	Type of Fit Test <sup>2</sup>	Frequency of Fit Tests (per year)
<u>1,2,3,4</u>	<u>Cannister neg. press.</u>	<u>B</u>	<u>N</u>		

<sup>1</sup>Use the following codes to designate average usage:

- A = Daily
- B = Weekly
- C = Monthly
- D = Once a year
- E = Other (specify) \_\_\_\_\_

<sup>2</sup>Use the following codes to designate the type of fit test:

- QL = Qualitative
- QT = Quantitative

Mark (X) this box if you attach a continuation sheet.

PART E WORK PRACTICES

9.19 Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this question and complete it separately for each process type and work area.

CBI

Process type ..... Open Casting of Polyurethane  
 Work area ..... 1,2,3,4

- 1. Limit access
- 2. Training
- 3. Respiratory Protection

9.20 Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type ..... Open Casting of Polyurethane  
 Work area ..... 1,2,3,4

Housekeeping Tasks	Less Than Once Per Day	1-2 Times Per Day	3-4 Times Per Day	More Than 4 Times Per Day
Sweeping	X			
Vacuuming	X			
Water flushing of floors	X			
Other (specify)				

Mark (X) this box if you attach a continuation sheet.

---

9.21 Do you have a written medical action plan for responding to routine or emergency exposure to the listed substance?

Routine exposure      NA

Yes ..... 1

No ..... 2

Emergency exposure

Yes ..... 1

No ..... 2

If yes, where are copies of the plan maintained?

Routine exposure: \_\_\_\_\_

Emergency exposure: \_\_\_\_\_

---

9.22 Do you have a written leak and spill cleanup plan that addresses the listed substance? Circle the appropriate response.

Yes ..... 1

No ..... ②

If yes, where are copies of the plan maintained? \_\_\_\_\_

Has this plan been coordinated with state or local government response organizations? Circle the appropriate response.

Yes ..... 1

No ..... 2

---

9.23 Who is responsible for monitoring worker safety at your facility? Circle the appropriate response.      NA

Plant safety specialist ..... 1

Insurance carrier ..... 2

OSHA consultant ..... 3

Other (specify) \_\_\_\_\_ ..... 4

---

Mark (X) this box if you attach a continuation sheet.

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SECTION 10 ENVIRONMENTAL RELEASE

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General Instructions:

Complete Part E (questions 10.23-10.35) for each non-routine release involving the listed substance that occurred during the reporting year. Report on all releases that are equal to or greater than the listed substance's reportable quantity value, RQ, unless the release is federally permitted as defined in 42 U.S.C. 9601, or is specifically excluded under the definition of release as defined in 40 CFR 302.3(22). Reportable quantities are codified in 40 CFR Part 302. If the listed substance is not a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and, thus, does not have an RQ, then report releases that exceed 2,270 kg. If such a substance however, is designated as a CERCLA hazardous substance, then report those releases that are equal to or greater than the RQ. The facility may have answered these questions or similar questions under the Agency's Accidental Release Information Program and may already have this information readily available. Assign a number to each release and use this number throughout this part to identify the release. Releases over more than a 24-hour period are not single releases, i.e., the release of a chemical substance equal to or greater than an RQ must be reported as a separate release for each 24-hour period the release exceeds the RQ.

For questions 10.25-10.35, answer the questions for each release identified in question 10.23. Photocopy these questions and complete them separately for each release.

---

PART A GENERAL INFORMATION

---

10.01 Where is your facility located? Circle all appropriate responses.

CBI

- Industrial area ..... 1
- Urban area ..... ②
- Residential area ..... ③
- Agricultural area ..... 4
- Rural area ..... 5
- Adjacent to a park or a recreational area ..... 6
- Within 1 mile of a navigable waterway ..... 7
- Within 1 mile of a school, university, hospital, or nursing home facility ..... 8
- Within 1 mile of a non-navigable waterway ..... ⑨
- Other (specify) \_\_\_\_\_ ..... 10

---

Mark (X) this box if you attach a continuation sheet.

---

10.02 Specify the exact location of your facility (from central point where process unit is located) in terms of latitude and longitude or Universal Transverse Mercader (UTM) coordinates.

Latitude ..... 41 ° 06 , 50 "

Longitude ..... 78 ° 46 , 09 "

UTM coordinates ..... Zone \_\_\_\_\_, Northing \_\_\_\_\_, Easting \_\_\_\_\_

10.03 If you monitor meteorological conditions in the vicinity of your facility, provide the following information.

Average annual precipitation ..... NA inches/year

Predominant wind direction .....

10.04 Indicate the depth to groundwater below your facility.

Depth to groundwater ..... NA meters

10.05 For each on-site activity listed, indicate (Y/N/NA) all routine releases of the listed substance to the environment. (Refer to the instructions for a definition of CBI, Y, N, and NA.)

On-Site Activity	Environmental Release		
	Air	Water	Land
Manufacturing	<u>NA</u>	<u>NA</u>	<u>NA</u>
Importing	<u>NA</u>	<u>NA</u>	<u>NA</u>
Processing	<u>Y</u>	<u>NA</u>	<u>NA</u>
Otherwise used	<u>NA</u>	<u>NA</u>	<u>NA</u>
Product or residual storage	<u>NA</u>	<u>NA</u>	<u>NA</u>
Disposal	<u>NA</u>	<u>NA</u>	<u>NA</u>
Transport	<u>NA</u>	<u>NA</u>	<u>NA</u>

Mark (X) this box if you attach a continuation sheet.

10.06 Provide the following information for the listed substance and specify the level of precision for each item. (Refer to the instructions for further explanation and an example.)

CBI

Quantity discharged to the air ..... less than 0.5 kg/yr ± \_\_\_ %

Quantity discharged in wastewaters ..... 0 kg/yr ± \_\_\_ %

Quantity managed as other waste in on-site treatment, storage, or disposal units ..... 0 kg/yr ± \_\_\_ %

Quantity managed as other waste in off-site treatment, storage, or disposal units ..... 0 kg/yr ± \_\_\_ %

Mark (X) this box if you attach a continuation sheet.

10.08 Describe the control technologies used to minimize release of the listed substance for each process stream containing the listed substance as identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each process type.

CBI  
 Process type ..... Open Casting of Polyurethane

<u>Stream ID Code</u>	<u>Control Technology</u>	<u>Percent Efficiency</u>
<u>A,C,D,E</u>	<u>NONE</u>	<u>NA</u>

Mark (X) this box if you attach a continuation sheet.

PART B RELEASE TO AIR

10.09 Point Source Emissions -- Identify each emission point source containing the listed substance in terms of a Stream ID Code as identified in your process block or residual treatment block flow diagram(s), and provide a description of each point source. Do not include raw material and product storage vents, or fugitive emission sources (e.g., equipment leaks). Photocopy this question and complete it separately for each process type.

CBI

Process type ..... Open Casting of Polyurethane

Point Source  
ID Code

Description of Emission Point Source

A,C,D,E

Mixing beaker and open mold

Mark (X) this box if you attach a continuation sheet.

Mark (X) this box if you attach a continuation sheet.

10.10 Emission Characteristics - - Characterize the emissions for each Point Source ID Code identified in question 10.09 by completing the following table.

CBI

<input type="checkbox"/> Point Source ID Code	Physical State <sup>1</sup>	Average Emissions (kg/day)	Frequency <sup>2</sup> (days/yr)	Duration <sup>3</sup> (min/day)	Average Emission Factor <sup>4</sup>	Maximum Emission Rate (kg/min)	Maximum Emission Rate Frequency (events/yr)	Maximum Emission Rate Duration (min/event)
A	G	70.01	240	480	NA	70.01	NA	NA
C	G	70.01	240	480	NA	70.01	NA	NA
D	G	70.01	240	480	NA	70.01	NA	NA
F	G	70.01	240	480	NA	70.01	NA	NA

<sup>1</sup>Use the following codes to designate physical state at the point of release:  
 G = Gas; V = Vapor; P = Particulate; A = Aerosol; O = Other (specify) \_\_\_\_\_

<sup>2</sup>Frequency of emission at any level of emission

<sup>3</sup>Duration of emission at any level of emission

<sup>4</sup>Average Emission Factor -- Provide estimated ( $\pm$  25 percent) emission factor (kg of emission per kg of production of listed substance)



10.12 If the listed substance is emitted in particulate form, indicate the particle size distribution for each Point Source ID Code identified in question 10.09. Photocopy this question and complete it separately for each emission point source.

CBI

Point source ID code ..... NA

Size Range (microns)

Mass Fraction (% ± % precision)

< 1

≥ 1 to < 10

≥ 10 to < 30

≥ 30 to < 50

≥ 50 to < 100

≥ 100 to < 500

≥ 500

\_\_\_\_\_

\_\_\_\_\_

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\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Total = 100%

Mark (X) this box if you attach a continuation sheet.

PART C FUGITIVE EMISSIONS

10.13 Equipment Leaks -- Complete the following table by providing the number of equipment types listed which are exposed to the listed substance and which are in service according to the specified weight percent of the listed substance passing through the component. Do this for each process type identified in your process block or residual treatment block flow diagram(s). Do not include equipment types that are not exposed to the listed substance. If this is a batch or intermittently operated process, give an overall percentage of time per year that the process type is exposed to the listed substance. Photocopy this question and complete it separately for each process type.

CBI

Process type ..... NA  
 Percentage of time per year that the listed substance is exposed to this process type ..... %

Equipment Type	Number of Components in Service by Weight Percent of Listed Substance in Process Stream					
	Less than 5%	5-10%	11-25%	26-75%	76-99%	Greater than 99%
Pump seals <sup>1</sup>						
Packed	_____	_____	_____	_____	_____	_____
Mechanical	_____	_____	_____	_____	_____	_____
Double mechanical <sup>2</sup>	_____	_____	_____	_____	_____	_____
Compressor seals <sup>1</sup>	_____	_____	_____	_____	_____	_____
Flanges	_____	_____	_____	_____	_____	_____
Valves						
Gas <sup>3</sup>	_____	_____	_____	_____	_____	_____
Liquid	_____	_____	_____	_____	_____	_____
Pressure relief devices <sup>4</sup> (Gas or vapor only)	_____	_____	_____	_____	_____	_____
Sample connections						
Gas	_____	_____	_____	_____	_____	_____
Liquid	_____	_____	_____	_____	_____	_____
Open-ended lines <sup>5</sup> (e.g., purge, vent)						
Gas	_____	_____	_____	_____	_____	_____
Liquid	_____	_____	_____	_____	_____	_____

<sup>1</sup>List the number of pump and compressor seals, rather than the number of pumps or compressors

10.13 continued on next page

Mark (X) this box if you attach a continuation sheet.

10.13 (continued)

<sup>2</sup>If double mechanical seals are operated with the barrier (B) fluid at a pressure greater than the pump stuffing box pressure and/or equipped with a sensor (S) that will detect failure of the seal system, the barrier fluid system, or both, indicate with a "B" and/or an "S", respectively

<sup>3</sup>Conditions existing in the valve during normal operation

<sup>4</sup>Report all pressure relief devices in service, including those equipped with control devices

<sup>5</sup>Lines closed during normal operation that would be used during maintenance operations

10.14 Pressure Relief Devices with Controls -- Complete the following table for those pressure relief devices identified in 10.13 to indicate which pressure relief devices in service are controlled. If a pressure relief device is not controlled, enter "None" under column c.

CBI

a. Number of Pressure Relief Devices	b. Percent Chemical in Vessel <sup>1</sup>	c. Control Device	d. Estimated Control Efficiency <sup>2</sup>
NA			

<sup>1</sup>Refer to the table in question 10.13 and record the percent range given under the heading entitled "Number of Components in Service by Weight Percent of Listed Substance" (e.g., <5%, 5-10%, 11-25%, etc.)

<sup>2</sup>The EPA assigns a control efficiency of 100 percent for equipment leaks controlled with rupture discs under normal operating conditions. The EPA assigns a control efficiency of 98 percent for emissions routed to a flare under normal operating conditions

Mark (X) this box if you attach a continuation sheet.

10.15 Equipment Leak Detection -- If a formal leak detection and repair program is in place, complete the following table regarding those leak detection and repair procedures. Photocopy this question and complete it separately for each process type.

CBI

Process type ..... NA

<u>Equipment Type</u>	<u>Leak Detection Concentration (ppm or mg/m<sup>3</sup>) Measured at _____ Inches from Source</u>	<u>Detection Device<sup>1</sup></u>	<u>Frequency of Leak Detection (per year)</u>	<u>Repairs Initiated (days after detection)</u>	<u>Repairs Completed (days after initiated)</u>
Pump seals					
Packed	_____	_____	_____	_____	_____
Mechanical	_____	_____	_____	_____	_____
Double mechanical	_____	_____	_____	_____	_____
Compressor seals	_____	_____	_____	_____	_____
Flanges	_____	_____	_____	_____	_____
Valves					
Gas	_____	_____	_____	_____	_____
Liquid	_____	_____	_____	_____	_____
Pressure relief devices (gas or vapor only)	_____	_____	_____	_____	_____
Sample connections					
Gas	_____	_____	_____	_____	_____
Liquid	_____	_____	_____	_____	_____
Open-ended lines					
Gas	_____	_____	_____	_____	_____
Liquid	_____	_____	_____	_____	_____

<sup>1</sup>Use the following codes to designate detection device:

POVA = Portable organic vapor analyzer

FPM = Fixed point monitoring

0 = Other (specify) \_\_\_\_\_

Mark (X) this box if you attach a continuation sheet.

Mark (X) this box if you attach a continuation sheet.

10.16 Raw Material, Intermediate and Product Storage Emissions - - Complete the following table by providing the information on each liquid raw material, intermediate, and product storage vessel containing the listed substance as identified in your process block or residual treatment block flow diagram(s).

CBI

Vessel Type <sup>1</sup>	Floating Roof Seals <sup>2</sup>	Composition of Stored Materials <sup>3</sup>	Throughput (liters per year)	Vessel Filling Rate (gpm)	Vessel Filling Duration (min)	Vessel Inner Diameter (m)	Vessel Height (m)	Operating Volume (l)	Vessel Emission Controls <sup>4</sup>	Design Flow Rate <sup>5</sup>	Vent Diameter (cm)	Control Efficiency (%)	Basis for Estimate <sup>6</sup>
NA													

- <sup>1</sup>Use the following codes to designate vessel type:
- F = Fixed roof
  - CIF = Contact internal floating roof
  - NCIF = Noncontact internal floating roof
  - EFR = External floating roof
  - P = Pressure vessel (indicate pressure rating)
  - H = Horizontal
  - U = Underground

- <sup>2</sup>Use the following codes to designate floating roof seals:
- MS1 = Mechanical shoe, primary
  - MS2 = Shoe-mounted secondary
  - MS2R = Rim-mounted, secondary
  - LM1 = Liquid-mounted resilient filled seal, primary
  - LM2 = Rim-mounted shield
  - LMW = Weather shield
  - VM1 = Vapor mounted resilient filled seal, primary
  - VM2 = Rim-mounted secondary
  - VMW = Weather shield

<sup>3</sup>Indicate weight percent of the listed substance. Include the total volatile organic content in parenthesis

<sup>4</sup>Other than floating roofs

<sup>5</sup>Gas/vapor flow rate the emission control device was designed to handle (specify flow rate units)

<sup>6</sup>Use the following codes to designate basis for estimate of control efficiency:

- C = Calculations
- S = Sampling

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PART E NON-ROUTINE RELEASES

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10.23 Indicate the date and time when the release occurred and when the release ceased or was stopped. If there were more than six releases, attach a continuation sheet and list all releases.

<u>Release</u>	<u>Date Started</u>	<u>Time (am/pm)</u>	<u>Date Stopped</u>	<u>Time (am/pm)</u>
1	WA			
2				
3				
4				
5				
6				

---

10.24 Specify the weather conditions at the time of each release.

<u>Release</u>	<u>Wind Speed (km/hr)</u>	<u>Wind Direction</u>	<u>Humidity (%)</u>	<u>Temperature (°C)</u>	<u>Precipitation (Y/N)</u>
1	WA				
2					
3					
4					
5					
6					

---

Mark (X) this box if you attach a continuation sheet.

---

9.02 In accordance with the instructions, complete the following table for each activity in which you engage.

CBI

a.	b.	c.	d.	e.
<u>Activity</u>	<u>Process Category</u>	<u>Yearly Quantity (kg)</u>	<u>Total Workers</u>	<u>Total Worker-Hours</u>
Manufacture of the listed substance	Enclosed	_____	_____	_____
	Controlled Release	_____	_____	_____
	Open	_____	_____	_____
On-site use as reactant	Enclosed	_____	_____	_____
	Controlled Release	_____	_____	_____
	Open	0.572	1	1920
On-site use as nonreactant	Enclosed	_____	_____	_____
	Controlled Release	_____	_____	_____
	Open	_____	_____	_____
On-site preparation of products	Enclosed	_____	_____	_____
	Controlled Release	_____	_____	_____
	Open	_____	_____	_____

Mark (X) this box if you attach a continuation sheet.

9.03 Provide a descriptive job title for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance.

CBI

Labor Category

Descriptive Job Title

Ⓐ

Molder - Polyurethane Valve Seat Material

B

C

D

E

F

G

H

I

J

Mark (X) this box if you attach a continuation sheet.

UNIROYAL CHEMICAL COMPANY, INC.

NOTIFICATION OF TOXIC CHEMICALS

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Listed below is the product name and MSDS code number, the name of each reportable chemical, its associated Chemical Abstracts Service registry number and the percent by weight of each toxic chemical in the product.

<u>PRODUCT NAME</u>	<u>MSDS CODE #</u>	<u>TOXIC CHEMICAL</u>	<u>CAS #</u>	<u>% (BY WT.)</u>
Vibrathane® B-604	V762004	2,4-toluene diisocyanate	584-84-9	0.6
		2,6-toluene diisocyanate	91-08-7	3.2

Please note: This notification must not be detached from the MSDS under penalty of law and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

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# Material Safety Data Sheet

Uniroyal Chemical Company, Inc. UNIROYAL Emergency Phone: (203) 723-3670  
 World Headquarters CHEMTREC Transportation Emergency Phone: 1-800-424-9300  
 Middlebury, CT 06749 SAFETY DATA Information (203) 573-3303

MSDS No. V762004 Date Issued: 10/25/85

## IDENTIFICATION

R-1

Trade Name: VIBRATHANE® B-604

CAS Number: NA

Chemical Name: Reaction product of a polyether with toluene diisocyanate (TDI)

Chemical Family: Polyurethane

## SPECIAL REGULATORY HAZARDS

<u>Ingredient</u>	<u>CAS No.</u>	<u>Exposure Limit</u>	<u>OSHA (1910.1200)</u>	<u>EEC*</u>
TDI	584-84-9	.005 ppm (ACGIH)	Irritant Sensitizer Carcinogen (NTP)	Irritant Sensitizer Irreversible effects

Hazard assessment based on available data.

Transportation: NA

## PHYSICAL DATA

Appearance and Odor: Viscous liquid; slight odor

Solubility: Reacts in water, soluble in THF, DMF or methylene chloride

Melting Point: ND

Boiling Point: ND

Other Data: Solidification Point: < 60°F (16°C)  
Reactive Isocyanate (NCO): 2.8 - 12.45

Specific Gravity (H<sub>2</sub>O = 1): 1.02 - 1.11

Vapor Pressure @ 20°C: ND

Vapor Density (Air = 1): ND

Volatility @ 70°F: Low

## FIRE AND EXPLOSION HAZARD DATA

Flash Point: >400°F (204°C) CC

Autoignition Temp: ND

Extinguishing Media: Water spray, dry chemical

Flammable Limits: ND

Special Fire Fighting Procedures: Protect against inhalation of cyanate vapors and other decomposition/combustion products.

Unusual Hazards: None identified.

## REACTIVITY DATA

Stability: Stable at ambient temperatures and pressures.

Incompatibility: Avoid contamination with water, solvents and any foreign matter.

Decomposition Products: High temperatures will release cyanates and hydrocarbons. Oxides of carbon, nitrogen and small amount of HCN under burning conditions.

NA = Not Applicable

ND = Not Determined

\*European Economic Community

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## SPECIAL PROTECTION INFORMATION

Engineering Controls: Local exhaust ventilation strongly recommended.

Personal Protection Equipment: Impervious gloves and goggles should be worn. Avoid breathing vapors. In the absence of good ventilation, under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended.

## STORAGE, SPILLS AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO<sub>2</sub> and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal.  
Reportable Quantity - 100 lbs. (TDI)

Disposal: In accordance with any applicable local, state, or federal regulation regarding polymeric waste.

Environmental Information: Environmental effects have not been determined.

## HEALTH RELATED DATA

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated, minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma.

Primary Route(s) of Entry: Inhalation, skin absorption.

First Aid Procedures: **Eye contact:** Flush with water for 15 minutes. Get medical attention.

**Skin contact:** Wipe excess. Wash with rubbing alcohol, if available, followed by soap and water. Discard shoes if contaminated.

**Inhalation:** Remove to fresh air. **Physician** - treat for potential respiratory irritation.

Toxicology Information:

There is no acute toxicology data on this material, however, residual TDI (0.02 - 4.0%) does possess irritancy and sensitization potential.

**Chronic:** Oral gavage administration of TDI in corn oil to rats and mice for 2 years resulted in an increased incidence of tumors. Six hour daily inhalation exposures to rats and mice of 0.05 and 0.15 ppm TDI for 2 years did not produce tumors. Since inhalation is the usual route of human exposure, the carcinogenic potential of TDI to humans has not been established.

UNIROYAL CHEMICAL COMPANY, INC.

NOTIFICATION OF TOXIC CHEMICALS

This product contains one or more chemicals subject to reporting requirements under Federal law. Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 defines toxic chemicals and requires reporting of their presence in products sold or otherwise distributed in the manufacturing industry.

Listed below is the product name and MSDS code number, the name of each reportable chemical, its associated Chemical Abstracts Service registry number and the percent by weight of each toxic chemical in the product.

<u>PRODUCT NAME</u>	<u>MSDS CODE #</u>	<u>TOXIC CHEMICAL</u>	<u>CAS #</u>	<u>% (BY WT.)</u>
Adiprene® L-167	V752006	2,4-toluene diisocyanate	584-84-9	1.8
		2,6-toluene diisocyanate	91-08-7	0.2

Please note: This notification must not be detached from the MSDS under penalty of law and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

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Middlebury, CT 06749UNIROYAL Emergency Phone: (203) 723-3670  
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SAFETY DATA Information (203) 573-3303MSDS No. V752006Date Issued: 10/25/85

R-1

## IDENTIFICATION

Trade Name: **ADIPRENE® L-167**CAS Number: **NA**Chemical Name: **Reaction product of a polyether  
with toluene diisocyanate (TDI)**Chemical Family: **Polyurethane**

## SPECIAL REGULATORY HAZARDS

<u>Ingredient</u>	<u>CAS No.</u>	<u>Exposure Limit</u>	<u>OSHA (1910.1200)</u>	<u>EEC*</u>
TDI	584-84-9	.005 ppm (ACGIH)	Irritant Sensitizer Carcinogen (NTP)	Irritant Sensitizer Irreversible effects

Hazard assessment based on available data.

Transportation: **NA**

## PHYSICAL DATA

Appearance and Odor: **Honey-colored liquid; slight odor**Solubility: **Reacts in water, soluble in  
THF, DMF or methylene chloride**Melting Point: **ND**Boiling Point: **ND**Other Data: **NA**Specific Gravity (H<sub>2</sub>O = 1): **1.03 - 1.15**Vapor Pressure @ 20° C: **ND**Vapor Density (Air = 1): **ND**Volatility @ 70° F: **Low**

## FIRE AND EXPLOSION HAZARD DATA

Flash Point: **350° F (177° C) CC**Autoignition Temp: **ND**Extinguishing Media: **Water spray, dry chemical**Flammable Limits: **ND**Special Fire Fighting Procedures: **Protect against inhalation of cyanate vapors and other decomposition/combustion products.**Unusual Hazards: **None identified.**

## REACTIVITY DATA

Stability: **Stable at ambient temperatures and pressures.**Incompatibility: **Avoid contamination with water, strong oxidizers or alcohol.**Decomposition Products: **High temperatures will release cyanates and hydrocarbons. Oxides of carbon,  
nitrogen and small amount of HCN under burning conditions.**

NA = Not Applicable

ND = Not Determined

\*European Economic Community

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## SPECIAL PROTECTION INFORMATION

Engineering Controls: Local exhaust ventilation strongly recommended.

Personal Protection Equipment: Impervious gloves and goggles should be worn. Avoid breathing vapors. In the absence of good ventilation, under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended.

## STORAGE, SPILLS AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO<sub>2</sub> and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal.  
Reportable Quantity - 100 lbs. (TDI)

Disposal: In accordance with any applicable local, state, or federal regulation regarding polymeric waste.

Environmental Information: Environmental effects have not been determined.

## HEALTH RELATED DATA

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated, minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma.

Primary Route(s) of Entry: Inhalation, skin absorption.

First Aid Procedures: **Eye contact:** Flush with water for 15 minutes. Get medical attention.

**Skin contact:** Wipe excess. Wash with rubbing alcohol, if available, followed by soap and water. Discard shoes if contaminated.

**Inhalation:** Remove to fresh air. **Physician** - treat for potential respiratory irritation.

Toxicology Information:

There is no acute toxicology data on this material, however, residual TDI (0.02 - 4.0%) does possess irritancy and sensitization potential.

**Chronic:** Oral gavage administration of TDI in corn oil to rats and mice for 2 years resulted in an increased incidence of tumors. Six hour daily inhalation exposures to rats and mice of 0.05 and 0.15 ppm TDI for 2 years did not produce tumors. Since inhalation is the usual route of human exposure, the carcinogenic potential of TDI to humans has not been established.

UNIROYAL CHEMICAL COMPANY, INC.

NOTIFICATION OF TOXIC CHEMICALS

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Listed below is the product name and MSDS code number, the name of each reportable chemical, its associated Chemical Abstracts Service registry number and the percent by weight of each toxic chemical in the product.

<u>PRODUCT NAME</u>	<u>MSDS CODE #</u>	<u>TOXIC CHEMICAL</u>	<u>CAS #</u>	<u>% (BY WT.)</u>
Adiprene® L-100	V752005	2,4-toluene diisocyanate	584-84-9	0.1
		2,6-toluene diisocyanate	91-08-7	0.1

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SAFETY DATA Information (203) 573-3303MSDS No. V752005Date Issued: 10/25/85

## IDENTIFICATION

R-1

Trade Name: ADIPRENE® L-100

CAS Number: NA

Chemical Name: Reaction product of a polyether  
with toluene diisocyanate (TDI)

Chemical Family: Polyurethane

## SPECIAL REGULATORY HAZARDS

<u>Ingredient</u>	<u>CAS No.</u>	<u>Exposure Limit</u>	<u>OSHA (1910.1200)</u>	<u>EEC*</u>
TDI	584-84-9	.005 ppm (ACGIH)	Irritant Sensitizer Carcinogen (NTP)	Irritant Sensitizer Irreversible effects

Hazard assessment based on available data.

Transportation: NA

## PHYSICAL DATA

Appearance and Odor: Honey-colored liquid; slight odor

Solubility: Reacts in water, soluble in  
THF, DMF or methylene chloride

Melting Point: ND

Boiling Point: ND

Other Data: NA

Specific Gravity (H<sub>2</sub>O = 1): 1.03 - 1.15

Vapor Pressure @ 20°C: ND

Vapor Density (Air = 1): ND

Volatility @ 70°F: Low

## FIRE AND EXPLOSION HAZARD DATA

Flash Point: 350°F (177°C) CC

Autoignition Temp: ND

Extinguishing Media: Water spray, dry chemical

Flammable Limits: ND

Special Fire Fighting Procedures: Protect against inhalation of cyanate vapors and other decomposition/combustion products.

Unusual Hazards: None identified.

## REACTIVITY DATA

Stability: Stable at ambient temperatures and pressures.

Incompatibility: Avoid contamination with water, strong oxidizers or alcohol.

Decomposition Products: High temperatures will release cyanates and hydrocarbons. Oxides of carbon, nitrogen and small amount of HCN under burning conditions.

NA = Not Applicable

ND = Not Determined

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## SPECIAL PROTECTION INFORMATION

Engineering Controls: Local exhaust ventilation strongly recommended.

Personal Protection Equipment: Impervious gloves and goggles should be worn. Avoid breathing vapors. In the absence of good ventilation, under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended.

## STORAGE, SPILLS AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO<sub>2</sub> and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal.  
Reportable Quantity - 100 lbs. (TDI)

Disposal: In accordance with any applicable local, state, or federal regulation regarding polymeric waste.

Environmental Information: Environmental effects have not been determined.

## HEALTH RELATED DATA

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated, minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma.

Primary Route(s) of Entry: Inhalation, skin absorption.

First Aid Procedures: **Eye contact:** Flush with water for 15 minutes. Get medical attention.  
**Skin contact:** Wipe excess. Wash with rubbing alcohol, if available, followed by soap and water. Discard shoes if contaminated.  
**Inhalation:** Remove to fresh air. **Physician** - treat for potential respiratory irritation.

Toxicology Information:

There is no acute toxicology data on this material, however, residual TDI (0.02 - 4.0%) does possess irritancy and sensitization potential.

**Chronic:** Oral gavage administration of TDI in corn oil to rats and mice for 2 years resulted in an increased incidence of tumors. Six hour daily inhalation exposures to rats and mice of 0.05 and 0.15 ppm TDI for 2 years did not produce tumors. Since inhalation is the usual route of human exposure, the carcinogenic potential of TDI to humans has not been established.

UNIROYAL CHEMICAL COMPANY, INC.

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Listed below is the product name and MSDS code number, the name of each reportable chemical, its associated Chemical Abstracts Service registry number and the percent by weight of each toxic chemical in the product.

<u>PRODUCT NAME</u>	<u>MSDS CODE #</u>	<u>TOXIC CHEMICAL</u>	<u>CAS #</u>	<u>% (BY WT.)</u>
Vibrathane® B-614	V762007	2,4-toluene diisocyanate	584-84-9	0.2
		2,6-toluene diisocyanate	91-08-7	2.0

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CHEMTREC Transportation Emergency Phone: 1-800-424-9300  
SAFETY DATA Information (203) 573-3303MSDS No. V762007Date Issued: 10/25/85

R-1

## IDENTIFICATION

Trade Name: VIBRATHANE® B-614

CAS Number: NA

Chemical Name: Reaction product of a polyether  
with toluene diisocyanate (TDI)

Chemical Family: Polyurethane

## SPECIAL REGULATORY HAZARDS

<u>Ingredient</u>	<u>CAS No.</u>	<u>Exposure Limit</u>	<u>OSHA (1910.1200)</u>	<u>EEC*</u>
TDI	584-84-9	.005 ppm (ACGIH)	Irritant Sensitizer Carcinogen (NTP)	Irritant Sensitizer Irreversible effects

Hazard assessment based on available data.

Transportation: NA

## PHYSICAL DATA

Appearance and Odor: Viscous liquid; slight odor

Solubility: Reacts in water, soluble in  
THF, DMF or methylene chloride

Melting Point: ND

Boiling Point: ND

Other Data: Solidification Point: < 60°F (16°C)  
Reactive Isocyanate (NCO): 2.8 - 12.45Specific Gravity (H<sub>2</sub>O = 1): 1.02 - 1.11

Vapor Pressure @ 20°C: ND

Vapor Density (Air = 1): ND

Volatility @ 70°F: Low

## FIRE AND EXPLOSION HAZARD DATA

Flash Point: &gt;400°F (204°C) CC

Autoignition Temp: ND

Extinguishing Media: Water spray, dry chemical

Flammable Limits: ND

Special Fire Fighting Procedures: Protect against inhalation of cyanate vapors and other decomposition/combustion products.

Unusual Hazards: None identified.

## REACTIVITY DATA

Stability: Stable at ambient temperatures and pressures.

Incompatibility: Avoid contamination with water, solvents and any foreign matter.

Decomposition Products: High temperatures will release cyanates and hydrocarbons. Oxides of carbon, nitrogen and small amount of HCN under burning conditions.

NA = Not Applicable

ND = Not Determined

\*European Economic Community

Uniroyal makes no representation or warranty with respect to the information in this Material Safety Data Sheet. The information is however, as of this date provided, true and accurate to the best of Uniroyal's knowledge. This list of information is not intended to be all inclusive. Actual conditions of use and handling may require considerations of information other than, or in addition to, that which is provided herein.

## SPECIAL PROTECTION INFORMATION

Engineering Controls: Local exhaust ventilation strongly recommended.

Personal Protection Equipment: Impervious gloves and goggles should be worn. Avoid breathing vapors. In the absence of good ventilation, under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended.

## STORAGE, SPILLS AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO<sub>2</sub> and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal.  
Reportable Quantity - 100 lbs. (TDI)

Disposal: In accordance with any applicable local, state, or federal regulation regarding polymeric waste.

Environmental Information: Environmental effects have not been determined.

## HEALTH RELATED DATA

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated, minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma.

Primary Route(s) of Entry: Inhalation, skin absorption.

First Aid Procedures: **Eye contact:** Flush with water for 15 minutes. Get medical attention.

**Skin contact:** Wipe excess. Wash with rubbing alcohol, if available, followed by soap and water. Discard shoes if contaminated.

**Inhalation:** Remove to fresh air. **Physician** - treat for potential respiratory irritation.

Toxicology Information:

There is no acute toxicology data on this material, however, residual TDI (0.02 - 4.0%) does possess irritancy and sensitization potential.

**Chronic:** Oral gavage administration of TDI in corn oil to rats and mice for 2 years resulted in an increased incidence of tumors. Six hour daily inhalation exposures to rats and mice of 0.05 and 0.15 ppm TDI for 2 years did not produce tumors. Since inhalation is the usual route of human exposure, the carcinogenic potential of TDI to humans has not been established.

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